

## ABSTRACT

Methods, systems, and computer program products for improving network operations by dynamically deploying services (such as web services or other network-accessible services) in a computing network. A process is defined whereby conditions such as usage metrics for incoming client requests (or other network conditions such as load balancing considerations) are monitored, and used to trigger dynamic deployment of web services to locations in the network in order to improve efficiency (e.g. by reducing response time to the client and/or reducing the burden on the back-end computing system resources). Service requests are dynamically routed to the destination where the service resides, in a manner which is transparent to the client. In an optional aspect, programmatic replication of system upgrades may be implemented by redeploying services using this same dynamic deployment approach, enabling the complexity of upgrading previously-deployed software to be reduced significantly. As another optional aspect, previously-deployed software may also be automatically and programmatically undeployed using disclosed techniques.